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<!--StartFragment-->ADS63355 standard; cDNA; 2382 BP.
XX
AC   ADS63355;
XX
DT   02-DEC-2004  (first entry)
XX
DE   Bacterial polynucleotide #15342.
XX
KW   Recombinant DNA construct; transformed plant; improved plant property;
KW   cold tolerance; heat tolerance; drought tolerance; herbicide; osmosis;
KW   pathogen tolerance; pest tolerance; plant disease resistance;
KW   cell cycle pathway modification; plant growth regulator;
KW   homologous recombination; seed oil yield; protein yield; carbohydrate;
KW   nitrogen; phosphorus; photosynthesis; lignin; galactomannan;
KW   bacterial polynucleotide; gene; ss.
XX
OS   Bacteria.
XX
PN   US2003233675-A1.
XX
PD   18-DEC-2003.
XX
PF   20-FEB-2003; 2003US-00369493.
XX
PR   21-FEB-2002; 2002US-0360039P.
XX
PA   (CAOY/) CAO Y.
PA   (HINK/) HINKLE G J.
PA   (SLAT/) SLATER S C.
PA   (CHEN/) CHEN X.
PA   (GOLD/) GOLDMAN B S.
XX
PI   Cao Y,  Hinkle GJ,  Slater SC,  Chen X,  Goldman BS;
XX
DR   WPI; 2004-061375/06.
XX
PT   New recombinant DNA construct comprising a promoter positioned to provide
PT   for expression of a polynucleotide encoding a polypeptide from a
PT   microbial source, useful for producing plants with improved properties.
XX
PS   Claim 1; SEQ ID NO 39029; 122pp; English.
XX
CC   The invention relates to a recombinant DNA construct comprising a
CC   promoter functional in a plant cell, where the promoter is positioned to
CC   provide for expression of a polynucleotide encoding a polypeptide from a
CC   microbial source. The invention also relates to a transformed plant
CC   comprising the recombinant DNA construct and a method of producing a
CC   transformed plant having an improved property. The plant is a crop plant
CC   such as maize or soybean. The method of producing a transformed plant
CC   having an improved property comprises transforming a plant with the
CC   recombinant DNA construct and growing the transformed plant, where the
CC   polynucleotide or polypeptide is useful for improving plant properties.
CC   The recombinant DNA construct is useful for producing plants with
CC   improved plant properties, e.g. improved cold, heat or drought tolerance,
CC   tolerance to herbicides, extreme osmotic conditions, pathogens or pests,
CC   increased resistance to plant disease, better growth rate by modification
CC   of the cell cycle pathway with plant growth regulators, increased rate of
CC   homologous recombination, modified seed oil or protein yield and/or
CC   content, improved yield by modification of carbohydrate, nitrogen or
CC   phosphorus use and/or uptake, by modification of photosynthesis or by
CC   providing improved plant growth and development under at least one stress
CC   condition, improved lignin production or improved galactomannan
CC   production. This sequence represents a bacterial polynucleotide used in
CC   the scope of the invention. Note: The sequence data for this patent did
CC   not form part of the printed specification but was obtained in electronic
CC   format from USPTO at seqdata.uspto.gov/sequence.html.
XX
SQ   Sequence 2382 BP; 463 A; 715 C; 783 G; 421 T; 0 U; 0 Other;

  Query Match           88.2%;  Score 2319.6;  DB 12;  Length 2382;
  Best Local Similarity   98.4%;  Pred. No. 0;
  Matches 2343;  Conservative    0;  Mismatches   39;  Indels    0;  Gaps    0;

Qy        189 GGAGCATCGCGCTTGAACGAGAATATCCTGTGGTTGCATGAGCTACGCCTGGTCGATCTG 248
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GGAGCATCGCGCTTGAACGAGAATATCCTGTGGTTGCATGAGCTACGCCTGGTCGATCTG 60
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Qy        249 GCCCGCCGTAGGCGGTAAAAATTCCTCGCTCGCGCAGATGATCGGCAACCTGGCCGGGTTG 308
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Db         61 GCCCGCCGTAGGCGGTAAAAATTCCTCGCTCGGCGAGATGATCGGCAACCTGGCCGGGTTG 120

Qy        309 GGCGTTTCGGTTCCCGGTGGATATGCGACCACTGCCGAAGCATTCAAGGACTTCATCGCCG 368
              || ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 GGTGTTTCGGTTCCCGGTGGATATGCGACCACTGCCGAAGCATTCAAGGACTTCATCGCCG 180

Qy        369 CACAACGATCTGTCAAAGCGCATTTTCGACAAGGTGGAGACGCTGGACGTTGAAGACGTC 428
              ||||||||||||| || ||||||||||||||||||||||||||||||||||||||||||||
Db        181 CACAACGATCTGTCCAAACGCATTTTCGACAAGCTGGAGACGCTGGACGTTGAAGACGTC 240

Qy        429 ACCGCGCTCACGGTCGCCGGCAAGGAGATCCCGCGCTGGGTGATCGACCCCCCGCTGCAG 488
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Qy        489 CCGGAGCTGGACCGCGACATCCGCAGCGGCCTACGAAAAACTCTGCGCCGAGAACGGCGGC 548
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Db        301 CCGGAGCTGGACCGCGACATCCGCAGCGGCCTACGAAAAACTCTGCGCCGAGAACGGCGGC 360

Qy        549 GGCGAAGTGGCGGTGGCTGTGCGTTCGTCGGCAACCGCCGAAGACCTGCCCGATGCCTCG 608
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Db        361 GGCGAAGTGGCGGTGGCAGTGCGTTCGTCGGCAACCGCCGAAGACCTGCCCGATGCCTCG 420

Qy        609 TTCGCCGGCCAGCAGGAAACCTTCCTCAATGTGACCGGCGGCCGACGACGTGGTGCACAAG 668
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Db        421 TTCGCCGGCCAGCAGGAAACCTTCCTCAATGTGACCGGCGGCCGACGACGTGGTGCACAAG 480

Qy        669 GTCAAGGAAGTATTCGCCAGCCTCTACAACGACGCCGCCGATTGCCTACCGCGTGCACCAC 728
              |||||||||| || ||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 GTCAAGGAAGTGTTAGCCAGCCTCTACAACGACCGCCGCGATTGCCTACCGCGTGCACCAC 540

Qy        729 GGCTTCAAGCACGAAGATGTGTTCCTGTCGGCCGGCGTGCAGTTGATGGTGCGCTCCGGC 788
              ||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||||||
Db        541 GGCTTCAAGCACGAAGATGTGTTCCTGTCGGCCGGTGTGCAGTTGATGGTGCGCTCCGGC 600

Qy        789 GTGGGTCGTCCGGCGTGTTGTTCACCCTGGACACCGAGTCCGGCTTCCGCGACGTGGTG 848
              ||||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 GTGGGTCGTCCGGTGTGTTGTTCACCCTGGACACCGAGTCCGGCTTCCGCGACGTGGTG 660

Qy        849 TTCGTCACCTCCAGCTTCGGCCTGGGCGAAATGGTCGTGCAAGGCGCGGTCAATCCGGAC 908
              ||||| ||||||||| ||||||||||||||||||||||||||||||||||||||||||||||
Db        661 TTCGTGACCTCCAGCTTTGGCCTGGGCGAAATGGTCGTGCAAGGCGCGGTCAATCCGGAC 720

Qy        909 GAGTTCTACGTCTACAAGCCCACGCTCACTGCGGGCGAAGCCGGCAATCCTGCGCCGCTCG 968
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Db        721 GAATTCTACGTCTACAAGCCCACGCTCACTGCGGGCGAAGCCGGCAATCCTGCGCCGCTCG 780

Qy        969 CTGGCGAGCAAGGCAATCCGCATGGTGTATTCGGATGTGCCCGGTGAACGCGTGCGCATC 1028
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Db        781 CTGGCGAGCAAGGCGATCCGCATGGTGTATTCGGATGTGCCCGGTGAACGCGTGCGCATC 840

Qy       1029 GAAGACACGCCGGTGGAGTTGCGCAACACTTTCTCGATCAGCGACGAAGATGTGCAGGAG 1088
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Qy       1089 CTCTCCAAGCAGGCGCTGGTGATCGAAAAGCATTACGGCCGCCCGATGGATATCGAGTGG 1148
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Db        901 CTCTCCAAGCAGGCGCTGGTGATCGAAAAGCATTACGGCCGCCCGATGGATATCGAGTGG 960

Qy       1149 GCCAAGGACGGCGTGAGCGGCAAGCTGTTCATCGTGCAGGCGCGCCCGGAGACGGTGAAG 1208
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Db        961 GCCAAGGACGGCGTGAGCGGCAAGCTGTTCATCGTGCAGGCACGCCCGGAAACGGTGAAG 1020

Qy       1209 TCGCGCAGCCATGCCACCCAGATCGAGCGTTTCTCGCTGGAAGCCAAGGACGCCAAGATC 1268
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Qy       1269 CTGGTCGAAGGCCGTGCGGTTGGCGCCAAGATCGGCAGCGGCGTGGCACGCGTGGTGCGC 1328
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Qy       1329 TCGCTGGAAGACATGAATCGCGTGCAGGCCGGCGACGTGCTGATTGCCGACATGACCGAC 1388
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Db       1141 TCGCTGGAAGACATGAACCGCGTGCAGGCGGGCGACGTGCTGATTGCCGACATGACCGAC 1200
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Qy       1389 CCCGATTGGGAGCCGGTGATGAAGCGTGCCTCGGCCATCGTCACCAACCGCGGTGGCCGC 1448
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Db       1201 CCCGATTGGGAGCCGGTGATGAAGCGTGCCTCGGCCATCGTCACCAACCGCGGTGGCCGC 1260

Qy       1449 ACCTGCCACGCGGCGATCATCGCGCGCGAACTGGGCGTGCCGGCGGTGGTGGGTTCGGGC 1508
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Db       1321 AATGCGACCGACGTGATCAGCGACGGCCAGGAAGTCACCGTGAGCTGCGCCGAGGGCGAC 1380

Qy       1569 ACCGGCTTCATCTATGAAGGCTTGCTGCCGTTCGAGCGCACCACCACCGACCTGGGCAAC 1628
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Db       1381 ACCGGCTTCATCTATGAAGGCTTGCTGCCGTTCGAGCGCACCACCACCGACTTGGGCAAC 1440

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Db       1441 ATGCCGCCTGCCCCGCTCAAGATCATGATGAACGTGGCCAACCCGGAGCGCGCATTCGAT 1500

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Db       1621 AAGAAGATCGACGCCAAGATTGCCGGCTACGGCGACCCGGTGAGCTTCTACATCAACCGT 1680

Qy       1869 CTGGCCGAAGGCATCGCGACCCTGACCGCGTCGGTGGCGCCGAACACGGTGATCGTGCGG 1928
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Qy       1929 TTGTCGGACTTCAAGTCCAACGAATACGCCAACCTGATCGGTGGCTCGCGTTACGAGCCG 1988
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Qy       1989 CACGAAGAGAACCCGATGATCGGCTTCCGCGGCGCCAGCCGTTATGTCGATCCGTCCTTC 2048
              || |||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Qy       2049 ACCAAGGCGTTCTCGCTGGAGTGCAAGGCGGTGTTGAAGGTGCGCAACGAGATGGGCCTG 2108
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Qy       2109 GACAACCTCTGGGTCATGATTCCGTTCGTGCGCACGCTGGAGGAAGGCCGCAAGGTGATC 2168
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Qy       2169 GAGGTGTTGGAGCAGAACGGGCTCAAACAAGGCGAGAACGGGCTGAAGATCATCATGATG 2228
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Qy       2229 TGCGAGCTGCCGTCCAATGCGCTGCTGGCCGATGAGTTCCTGGAGATCTTCGACGGCTTC 2288
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Qy       2289 TCGATCGGCTCCAACGACCTGACCCAGCTCACCCTGGGCCTGGACCGCGATTCCTCGATC 2348
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Qy       2349 GTGGCGCACCTGTTCGACGAGCGGAACCCGGCGGTGAAAAAGCTGCTGTCGATGGCGATC 2408
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Db       2281 CCGGAACTGGCCGAGTGGTTGATGCAGGAAGGCATCGAGTCGGTGTCGCTGAATCCTGAC 2340
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Qy       2529 ACCGTGGTCGATACCTGGCTGCGCCTGGCCAAGCTCAAGAGC 2570
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